NonPoint Source Times

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What's New For Outreach in NPS & Stormwater Programs

Maine DEP staff were lucky enough to attend the 4th National NPS & Stormwater Education & Outreach Conference in Chicago in October. Here are the highlights that I want to share with MDEP partners.

The key theme: Social Marketing and Behavior Change
From the key note speaker Nancy Lee (President, Social Marketing Services, Inc, Adjunct Faculty University of Washington), a workshop with Doug McKenzie-Mohr, and EPA's promotion of *Getting In Step: A Guide for Conducting Watershed Outreach Campaigns* made it clear to all in attendance that social marketing and focusing on behavior change and not simply information dissemination is where the action is.

The intent of social marketing is on influencing behavior change. We were reminded that we are selling a behavior; the behavior is our product. Selling environmental behaviors is 1000 times harder than selling other products. Why, because we are asking people to:

Be uncomfortable	Go out of their way
Risk Rejection	Spend more money
Reduce pleasure	Be embarrassed
Give up looking good	

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We need to identify our target audience and target behavior. The shotgun approach is too expensive and too ineffective. We can't sell everything to everyone.

The keynote speaker's, Nancy Lee, 7 Principals:

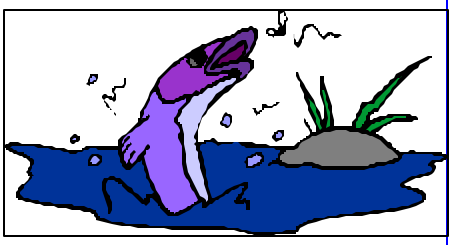
1. Target the markets that are most ready for action.
   Greens - those already taking action and willing to go out of their way. Example: they will go out of their way - driving to another town or whatever it takes to recycle.
   Sprouts - those willing to take action but we need to remove the barriers. This is the group we should go after. Example: They are willing to recycle if we make dropping off the recyclables easy, they won't go out of their way.
   Browns - they aren't interested. Don't bother going after the browns.
2. Promote single, simple, doable behaviors. (Don't give them a long laundry list. Proctor & Gamble doesn't advertise all their products in one ad, neither should we promote all behaviors in one effort.)
3. Understand audience barriers to behavior change. (If you can get them to tell you WHY they don't recycle or use less fertilizer … that list is gold. Listen to what they say - they are giving you their barriers - now go remove them.)
4. Include tangible objects & services that support behavior change. (Example: Sometimes 'we' tell people to take shorter (5 minute) showers, but how do you know when 5 minutes is up? One city in California handed out little hourglass timers for the shower.)
5. Find a price that matters. (In Maine 5 cents is enough to get people to recycle their bottles, but it doesn't get many people to reuse their plastic grocery bags. Price needs to matter to the target audience so that they will do the behavior or be an effective deterrent against the bad behavior.)
6. Make access easy.
7. Use effective communication techniques (messages, messengers, media channels). Messenger must have creditability with your target audience.

The Challenge: Are we making a difference to water quality?

Attendees were challenged to justify their programs and program elements for their effectiveness not just in changing behavior but ultimately improving or protecting water quality.

What not to do: Brochures

Brochures became an embarrassing word, mostly because they are so often misused (burn your brochures is how one attendee summed it up). Print materials are best used in the context of a class/workshop rather than handed out at a fair. Brochures, pamphlets, etc. are part of a bigger effort. We should always start with identifying our goal, target audience and the barriers and only then arrive at the tools used to move them in the direction you want. The underlying message was 'use brochures and print materials sparingly' which is the opposite of what many of us have been doing. One presenter said he asks his staff to justify print materials by asking them "Will this make a difference in water quality that the fish will notice?". If they can show the fish will notice, they can develop their print materials.



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More ideas:

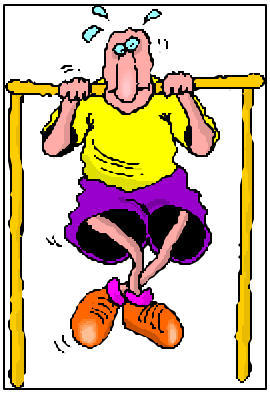
- AIDA – Awareness – Interest – Desire – Action. People move through the following to arrive at taking action. First they become Aware, then they develop Interest and then Desire, and finally take Action. Our efforts need to be targeted at the stage they are at. Mass media might raise awareness & interest but may not move them to Desire or Action. Efforts become more challenging as you move from Awareness to Action.

- Know your target audience. Use intercepts to gather information about target audience (intercept is just an interview - might ask someone a few questions at a mall for example.)
- Listen to people – listen for emotions. People take action based on values and are motivated by emotion, not facts.
- Observe. Watch what people do or don't do.
- Every time you tell people what they should do, tell them a benefit – what's in it for them!
- Test and pilot efforts.
- Use city council in judging poster contests. Back door education for the council.
- Get out what the municipality/district/organization is doing, not just what volunteers are doing.
- Evaluate impact. Example: If goal is to get people to pick up pet waste, plan to measure if your effort actually results in more people picking up pet waste.

And finally - the future: Evaluation

As someone who has attended 3 of these conferences, I have noticed a trend in outreach projects around the country. At the first conference terms like social marketing and impact evaluation were almost never heard. Many presenters would 'claim' success simply because they held a workshop and people showed up. This year we heard that they not only showed up but what they did after the workshop, in other words the impact and behaviors that resulted from coming in contact with the outreach. It became obvious this year that people were no longer going to 'get away' with saying success was mailing out 3,000 brochures, but that after mailing them out, they saw some action as a result (impact).

A second trend involves moving from evaluating and tracking changes in awareness, to self reported behavior change, to actual observed behavior change. Example: Picking up pet waste. Four years ago, a presenter may have reported that they put up 5 signs at a park or handed out 1000 brochures when people licensed their dogs. Two years ago, a presenter would have reported that through their campaign they were able to measure an increase in awareness. This year, the presenter would have reported that when asked, people reported that they were now picking up their pet waste. I expect in 2 more years, we will see presenters talking about observable behavior change (actually watching a park to see if more people pick up after their pet). Sometime in the future, maybe in 2 more years, we will also see presenters reporting actual water quality impact. So in our pet waste example, we would see a reduction in bacteria.



It is important to note these changes and the rising bar for evaluating success of outreach efforts. First, education & outreach are often considered extras. When times are tough, they are the budget

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item which is cut. We need to show what is gained by our outreach efforts. Second, also money related, when we compete for grants, grantors feel more comfortable knowing what they really get for their investment. Evaluating the impact of our outreach efforts helps validate the expenditures. Third, it makes all who are involved feel like they have accomplished something. How many times have we invested time in an event, brochure, booklet or web sites, to never know if they had any impact? Success breeds energy and excitement and can help energize volunteers or funders.

Proceedings

All presenters were required to submit a paper for the conference proceedings. The proceedings will be made available electronically on EPA's web site. When it becomes available MDEP will put a link on our web site and the URL will be published in the NPS Times.

By Kathy Hoppe, Maine DEP, 207-760-3134 or Kathy.m.hoppe@maine.gov

New Outreach Tool From EPA

EPA's NPS branch has compiled examples of outreach tools from around the country and put them all together in the NPS Outreach Digital Tool Box. The Tool Box is a companion piece to the Getting In Step: A Guide for Conducting Outreach Campaigns.

The Tool Box contains examples of radio & TV PSAs, brochures, posters and bill boards. Some of the campaigns have done evaluation so where available it is also included.

Before barrowing these materials and adopting them for your campaign, it is highly recommended and very prudent to test the materials with your target audience. Just because something plays well in Texas, California or Washington doesn't mean that it will play well in Maine. Also remember they may be addressing a different barrier to the one experienced by your target audience.

The Tool Box can be found at: www/epa.gov/nps/toolbox/beta

Maine DEP to Host 30th Annual NEAB Conference

New England Association of Environmental Biologists (AKA NEAEB) will be at the Bethel Inn (http://www.bethelinn.com/) in beautiful Bethel Maine March 29-30, 2006. Besides a star-studded cast of (real) characters imparting useful and arcane scientific information, you get to experience great cross country and alpine skiing, a heated pool, long and meaningful discussions with like-minded people, and pointless but fun discussions with your friends and colleagues.

NEAEB is an organization dedicated to connecting biologists and resource managers in New England and New York to share information. For thirty years, NEAEB has sponsored a gathering of individuals from government, private consulting, academic, tribal, and other non-governmental groups. Papers and poster sessions focus on topics ranging from bio-monitoring to non-point source pollution assessment and reduction in lakes, streams, wetlands, and marine environments.

FMI contact Roy Bouchard, ME DEP Lake Assessment Section (207)287-7798 or roy.bouchard@Maine.Gov

EPA Announces $740,000 Award to Improve Presumpscot River

BOSTON - After months of awaiting word about the winners of the U.S. Environmental Protection Agency's 2005 Targeted Watershed Grants, the Casco Bay Estuary Partnership and the Presumpscot River Watershed Coalition received the good news today – that the groups were chosen to receive close to$740,000 to further their plans to improve the Presumpscot River.

From a ceremony at the University of Southern Maine, Robert W. Varney, regional administrator of EPA's New England office, announced the award and noted that Maine's watershed project was one of 12 selected by the US Environmental Protection Agency nationwide to receive more than $9 million. The Maine project was among 74 proposals submitted nationally, including nine proposals submitted by five New England states. With the watersheds announced today, and those selected in the first two years of the program, EPA has targeted 46 watersheds across the country, giving them more than $46 million, including $4.3 million to four New England states.

"EPA is pleased to further support improvements for the health and vitality of the Presumpscot River, the largest freshwater source to Casco Bay and a critical resource to Maine's fisheries and recreation," said Varney. "This award will help repair past damage to the watershed and will establish new models for river stewardship." Since 1990, EPA has already provided about $9 million to support the Casco Bay Estuary Partnership.

"This grant recognizes the significant work of the Casco Bay Estuary Partnership in restoring the watershed," said Governor Baldacci. "I am pleased that the Maine Department of Environmental Protection contributed resources in-kind to the project, and I congratulate the broad based stakeholder group that has contributed to this valuable effort."

The Casco Bay Estuary Partnership and the Presumpscot River Watershed Coalition will work together to put the watershed improvement projects in place. The Casco Bay Estuary Partnership, one of 28 National Estuary Programs in the country,. has worked since 1990 to protect Casco Bay and the multiple sub-watersheds that drain into Casco Bay, including the Presumpscot River watershed. Since 1996, it has worked to carry-out the recommended actions in the *Casco Bay Plan.* The Partnership also brought together stakeholders and provided financial support to develop the 2003 *Plan for the Future of the Presumpscot River.*

The Presumpscot River Watershed Coalition is made up of more than a dozens government and private organizations concerned with improving fisheries, mitigating impacts

DEP is proud of the many watershed groups throughout Maine working to protect Maine's beautiful lakes, rivers, streams and coastal waters.

Norm Marcotte, Maine DEP's 319 Program Coordinator remarked "Maine received 2 out of the 5 EPA Targeted Watershed Grants awarded in New England since 2003. That's exceptional! Maine has many very capable and determined watershed stewardship groups and conservation districts working effectively to protect our watersheds and clean water. We are fortunate to experience that everyday as DEP helps plan and implement 319 NPS projects".

from watershed development and preserving open space along the River. It is also guiding the efforts to impalement in place the 2003 Plan. The selection of Presumpscot Watershed project to receive a Targeted Watershed Grant will help the Casco Bay Estuary Partnership, the Presumpscot River Watershed Coalition and their partners to further implement the plan.

"This is a great day for the Presumpscot River. This grant will significantly bolster the watershed protection and fisheries restoration efforts already underway. It makes a very important statement about the value of this incredible resource and the many organizations who are working together to bring it back" said Karen Young, Director of the Casco Bay Estuary Partnership**.**

The Presumpscot River / Casco Bay Watershed, one of the most developed and fastest growing watersheds in Maine, drains over 200 square miles including the greater Portland metropolitan area. In recent years, the river's water quality has improved with the end of discharges from an upstream pulp mill ceased, and removal of the lowest dam on the river, Smelt Hill Dam. Despite the river's progress, runoff still pollutes the lower river and tributaries with elevated levels of bacteria and low levels of dissolved oxygen. Sedimentation from roads and eroding stream banks are deteriorating important fish spawning areas, and toxic and nutrient loads from residences and golf courses are affecting water quality. Lack of vegetation along streams of the River further degrade water quality.

The money will be used for the following watershed improvement projects:

- stabilizing stream banks and providing culverts at 62 critical stream sites to reduce sedimentation while involving local students and volunteers;
- re-establish forested buffers by planting 3,000 trees along river and stream banks;
- develop a cost-sharing program with agricultural land owners to keep cows out of streams using fencing and providing an alternative watering system;
- work with six golf courses to certify their maintenance practices as environmentally friendly;
- conduct outreach to homeowners to reduce pesticide and fertilizer use;
- and monitor water quality to assess progress and report the results of restoration efforts.

For more information about this year's selections or about the Targeted Watershed Grant program go to: http://www.epa.gov/owow/watershed/initiative.

For More information regarding this project contact Karen Young, Director, Casco Bay Estuary Partnership (207)780-4820, kyoung@usm.maine.edu or www.cascobayestuary.org

Overview:
Building on significant improvements in the Presumpscot over the last decade, the Presumpscot Watershed Initiative (PWI) will implement a suite of projects to improve water quality, enhance riparian habitat, reduce contaminant loading, and foster increased stewardship and awareness among watershed inhabitants. Demonstration projects will model land stewardship practices to watershed landowners and land users. Project partners will monitor bacteria, nutrients, and other water quality parameters to provide an indication of measurable progress. The project's educational outreach elements will serve to actively engage multiple watershed stakeholder groups.

Goal:
Lower overall loading of sediment, bacteria, nutrient, and toxics to the Presumpscot River and tributaries.

Looking At Lawns

(Editors Note: The following are excerpts from a story written by Rebecca Lindsey on Christina Milesi's work on lawns in the US. For a complete copy of the article visit: http://earthobservatory.nasa.gov/Study/Lawn/lawn3.html)

Since 2003, Christina Milesi has been calculating how much of America's land surface is lawn-covered and what impact all that grass has on our country's water and carbon cycles.

"I think the interest in lawns started because I'm kind of an outsider," she explains. Milesi moved to the United States from Italy in 1998. "When I first came here I lived in Montana, in a town that was surrounded by mountains. Past June, everything surrounding the town would turn brown and dry. A lot of the natural vegetation goes dormant in the summer. But then throughout our town, I would see these oases of green patches—people's lawns. I had a neighbor who would water every day, even twice a day. It was not familiar to me." In Italy, she explains, people typically live at much higher population densities, with smaller yards that have little landscaping. "If there is grass in the yard, it is generally a mixture of clover, dandelions, and lots of other so-called weeds, able to survive the long dry summers with little additional water."

Milesi was working on her Ph.D. at the University of Montana. To finish up her required hours of classes, she signed up for an e-business class. For the class' final exam, students had to submit a proposal for an e-business. At the time, Milesi and her husband were expecting their first child. As many expectant mothers can testify, sometimes a slow, short stroll around the block is all the exercise they can manage. These strolls became the inspiration for Milesi's business plan.

"Even conservatively," Milesi says, "I estimate there are three times more acres of lawns in the U.S. than irrigated corn." This means lawns—including residential and commercial lawns, golf courses, etc—could be considered the single largest irrigated crop in America in terms of surface area, covering about 128,000 square kilometers in all. Her next task was to figure out some of the ecological impacts of this crop of lawns Americans are cultivating. Why is important to know how much water we use to irrigate our lawns? Across the United States, water supplies are increasingly under pressure as populations grow. The water table has dropped hundreds of feet in many locations, and rivers and streams go dry for long stretches in various seasons as water is siphoned off for agriculture, industry, and individual residences. All along the Atlantic seaboard from Florida to New York, saltwater is flowing into formerly freshwater aquifers and wells because we are pumping freshwater out faster than nature can put it back.

Given these pressures, says Milesi, it's important to think about how society uses the available water. "Depending on the irrigation schemes I portrayed with the computer simulations, whether you choose a fixed amount or choose an amount tied to weather and evaporation, domestic and commercial water use for lawns would be 695 to 900 liters (184 to 238 gallons) per person per day if all lawns [in the Lower 48] were well-watered." That means about 200 gallons of fresh, usually drinking-quality water per person per day would

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be required to keep up our nation's lawn surface area.

"In fact, the model suggests that if we recycle the clippings on the grass, we can almost halve the amount of synthetic nitrogen fertilizer, and the carbon storage is still greater than it would be if we used the higher amounts of fertilizer but removed the clippings from the lawn." That could be good news for estuaries and other coastal areas where runoff of excess nitrogen from land surfaces is major source of water pollution, leading to algae overgrowth and dead zones, where aquatic life can't survive.

Having real numbers to describe the impact of human-designed landscapes is important to scientists. But just as interesting to Milesi was one of her more descriptive findings: in most of the United States, lawns just aren't natural. When she had the ecosystem computer models generate a "control" scenario in which lawns were not irrigated or fertilized, she says, "The only places I could grow grass in the conterminous U.S. were a few areas in the Northeast and the Great Plains." Everywhere else, lawns have to be coddled to keep them going and to keep weeds and other plants from taking over

Milesi, C., S.W. Running, C.D. Elvidge, J.B. Dietz, B.T. Tuttle, R.R. Nemani. (2005) Mapping and modeling the biogeochemical cycling of turf grasses in the United States. *Environmental Management* 36(3), 426-438.

Results 'dramatic' In Effort to Decrease Water Runoff

Study of Waterford subdivision shows environment-friendly development feasible

By Judy Benson**,** *Health/Science/Environment Reporter for TheDay.com.* Published on 10/20/2005

Waterford — The Glen Brook Green subdivision off Fog Plain Road straddles two worlds, one that follows traditional land-use and development patterns, and one that takes a more environmentally conscious approach.

The release of the results of an exhaustive 10-year study of the two approaches' effect on the environment occasioned a gathering Wednesday afternoon of state and federal environmental officials, University of Connecticut scientists, state lawmakers and others.

Addressing a small audience from a podium set up in the middle of the road running through the 18-acre residential development, speakers praised the project as a national model.

"We can take the results of this 10-year study and try to sell it to the rest of the world, to make better land-use and home-use decisions," said Jane Stahl, deputy commissioner of the state Department of Environmental Protection.

The neighborhood, developed by Lombardi Inside/Out, was one of 25 sites around the country and the only residential development chosen to be part of a federal Environmental

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Protection Agency project to demonstrate how to minimize so-called non-point source pollution –– water runoff containing nitrogen, bacteria and other pollutants from various small-scale activities that cumulatively do as much damage to waterways as large-scale polluters.

Ira Leighton, deputy regional administrator of the EPA, said the results of studies that compared runoff from the traditional half of the subdivision to the half designed to minimize runoff were dramatic. The environmentally friendly half, he said, produced no more runoff than if the land were left as forest.

“This is a one-of-a-kind project,” he said. The EPA's $1 million grant for the study was channeled through the DEP to UConn.

Runoff from the development flows into Nevins Brook, which connects to Jordan Brook, then Jordan Cove and ultimately Long Island Sound. Reducing the amount of nitrogen and other pollutants from all sources entering the Sound is critical to improving its health, according to state environmental officials.

Jack Clausen, associate professor in the UConn Department of Natural Resources Management and Engineering, oversaw collection of the data over the 10-year period, which required more than 1,500 trips to the neighborhood by he and others, including graduate and undergraduate students.

About 100 times more water is running off the traditional part, carrying with it pollutants from lawn fertilizers, dog waste, petroleum residues from cars and other sources, Clausen said. By contrast, the other section soaks up virtually all the rainwater that lands there, containing any pollutants at the same time. The homes in that section are arranged in a cluster instead of on typical single-family lots, leaving more land as open space.

To keep runoff on the property, the cluster section of the development uses paving bricks instead of asphalt for the roadway, which is 22 feet wide instead of the standard 26 to 28 feet. Swales or trenches at the edges of the lawns –– instead of curbs and gutters — also absorb water, Clausen noted. Each yard has its own rain garden that captures any runoff from roofs and driveways, most of which use gravel or pavement bricks.

Lawns were seeded with a special Jordan Cove mix developed by UConn that requires less watering and fertilizer than the types of grass on most lawns, Clausen said, and annual soil tests provide homeowners with accurate information on what their lawns need. Most homeowners, he noted, use too much fertilizer too often.

State DEP Commissioner Gina McCarthy said she hopes the project will be replicated across the country.

“It's time for all of us to grow up, or grow down, or maybe grow smarter,” she said. “This shows it can be done and should be done.”

Thomas Pond Conservation Project Phase I Wraps Up

It's been a busy few years in the Thomas Pond Watershed. The Thomas Pond Conservation Project is wrapping up a two-year project to install conservation practices. The enthusiastic watershed community provided overwhelming interest and participation in the project that helped make it a success.

Thomas Pond is a 442-acre lake located in the Towns of Casco and Raymond in central Cumberland County. The lake has a direct watershed of 4.5 square miles and is part of the Sebago Lake Watershed. It's shoreline, which stretches 7.5 miles is lined with over 300 homes.

Monitoring of the water quality on Thomas Pond has occurred since 1976. Data show a significant depletion of dissolved oxygen in the bottom waters in late summer. Given this information and the fact that Thomas Pond is a highly valued regional resource, it was placed on the State's "Nonpoint Source Priority Watersheds" list and on the list of "Lakes Most at Risk from Development" under the Maine Stormwater Law. Thomas Pond's water quality problems can be attributed to polluted runoff that washes into the pond from its surrounding watershed.

In 2000, the Thomas Pond Improvement Association (TPIA), MDEP and Cumberland County Soil and Water Conservation District (SWCD) organized an independent survey of the watershed, and volunteers identified 125 erosion sites. Of the 125 sites, 59 percent occurred at residential sites and 22 percent from private roads. Other sites included town roads, beaches and boat launches.

Watershed Survey results helped secure funding for on-the-ground work. In April 2003 DEP issued a grant of $46,147 (NPS Project #2003R-10) to CCSWCD with EPA funds under Section 319 of the Federal Clean Water Act. The project provided education & outreach, technical assistance and on-the-ground fixes all directed at protecting Thomas Pond.

Part of the Education and Outreach piece included a new and innovative way to conduct buffer workshops. Two "Cruise the Buffers" workshops were held, the first in 2003 and the second in 2004 hosted a total of 34 participants. Two pontoon boats departed from opposite sides of the pond and gave residents a

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Sediment loading into Thomas Pond was reduced by at least 17 tons every year. That's equivalent to 2 dump truck loads!

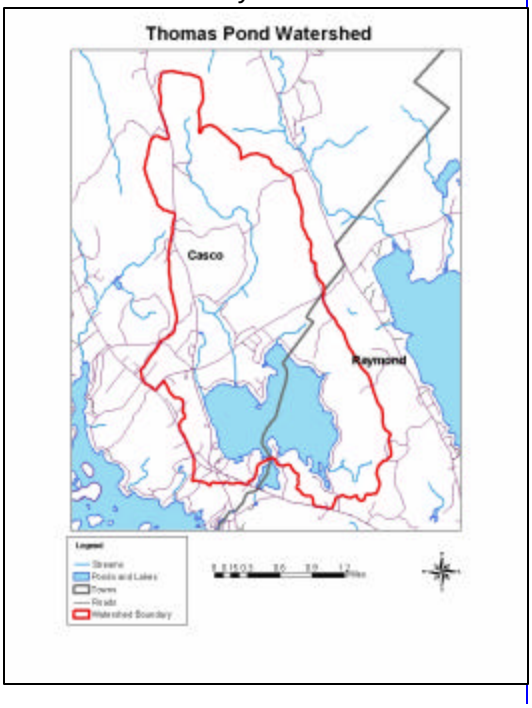
chance to learn more about effective conservation landscapes that help protect the pond from runoff and erosion. Examples of "no mow zones", natural buffers, landscaped buffers and combinations of both were highlighted. Many technical assistance requests resulted from both buffer cruises. Technical assistance was provided to 32 landowners and road associations. Properties were assessed and site conditions and specific recommendations were summarized in reports. An incentive was offered to watershed residents in the form of a native plant matching grant program of up to $100 to install or enhance their conservation landscape. Twenty matching grants were awarded throughout the project with over 320 trees, shrubs and groundcovers being added to buffers in the watershed.

One goal of the project involved on the ground fixes to 12 road sites. A cost-sharing program was developed to help road associations and towns fix the identified sites. The project exceeded this goal by addressing 15 road sites. A variety of conservation practices were installed and included, road resurfacing, ditch and shoulder stabilizations, stream crossing stabilization, turnouts and rubber razor blade water diverters to name just a few.

Education and Outreach activities included the developing a Project Fact Sheet to introduce project activities, a final project brochure, numerous press articles, presentations to several Road Association, the Pond Association and Town Boards.

Project success was due in large part to the Thomas Pond Watershed Community. The high level of involvement at all levels speaks to their commitment to protecting their environment.

In the spring of 2006, Phase II will begin where Phase I left off. Thirty five sites are slated to be fixed including nine road sites, one high impact boat launch, one high impact trail/four wheel drive site and one medium impact beach site. The remaining 23 sites will be focused on residential sites. Technical Assistance and a conservation matching grant program will be offered to landowners, towns and road associations. A Watershed Stewards Program and a Community Watershed Forum will also be included in this project. Project partners include the Cumberland County Soil & Water Conservation District, Thomas Pond Improvement Association, the Towns of Casco & Raymond, Portland Water District, Raymond Waterways Protective Association, the Thomas Pond Watershed community, Maine DEP and US EPA.



Written by Betty Williams, Project Manager, Cumberland Co. Soil & Water Conservation District. 207-856-2777. Contact Betty FMI.

Brief updates, announcements & points of interest

319 Success Stories

EPA has added 8 new stories to the Section 319 Nonpoint Source Success Stories Web site. The Web site features projects receiving grant funds from the Clean Water Act §319 Non-point Source Program that have achieved documented water quality improvements, including the achievement of water quality standards and removal from state §303(d) lists of impaired waters. The Web site was launched in August with 18 stories, and an additional 8 new stories are now featured from Ohio, Colorado, Wisconsin, Pyramid Lake Paiute Tribe/ Nevada, Missouri, Minnesota (Minneapolis Chain of Lakes), and 2 more from Washington (Lower Yakima and Dungeness River). Please visit the Web site at: http://www.epa.gov/nps/success

Environmental Literacy In America

The new book, Environmental Literacy in America (http://www.neetf.org/pubs/index.htm), describes a 12-question test used to test environmental literacy. Run in 1997 and again in 2000, it showed that the lowest knowledge of the 12 regarded the following question:

What is the most common cause of pollution of streams, rivers, and oceans? Is it . . .

1. dumping of garbage by cities;
2. surface water running off yards, city streets, paved lots, and farm fields
3. trash washed into the ocean from beaches
4. waste dumped by factories

Only 23 percent got this question right in 1997; 28 percent got it right in 2000.

The good news? An increase of 5% from 1997 to 2000, the only significant increase among the 12 questions. Of course, since the correct responses were higher for all other question in both 1997 and 2000, they had less room to improve. (E.g., only 1/3 correctly guesses that most electricity in the USS is generated by burning oil, coal, and wood, but 85% knew that most household garbage goes to landfills.) Bottom line: We've got a major NPS literacy deficit.

Watershed Funding

The OWOW Sustainable Finance Team at EPA has launched a new "Watershed Funding" section of EPA's Web site. The new pages contain links to tools, databases, and resources about grants, funding and fundraising. The Web site is designed to help non-profit watershed organizations, state and local governments, and funders (such as foundations) more easily find information on how to effectively obtain and invest resources to improve watershed health.

Please visit the Watershed Funding homepage at http://www.epa.gov/owow/funding.html

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Lessons Learned Regarding The "Language of Conservation"
From The National Research Program

By Lori Weigel, Public Opinion Strategies
John Fairbank and Dave Metz, Fairbank, Maslin, Maullin & Associates

These "lessons learned" regarding the language of conservation are drawn from both qualitative and quantitative research conducted on behalf of The Nature Conservancy and Trust for Public Land by our two firms in 2004. As conservation experts with a very technical and specialized vocabulary, one goal of the research was how to translate "policy speak" into everyday vocabulary which resonates with the general electorate. Therefore, they are providing these recommendations in a list of easy-to-follow, broad "rules" for communication. While there can certainly be unique circumstances, they found few exceptions to these broad rules in terms of geography or key demographic groups in the survey.

To review the "rules" and read the 8 page paper visit http://www.fws.gov/northeast/stateplans/Other%20Resources_files/The%20Language%20of%20Conservation.pdf

Community Cultural Profiling Guide: Understanding a Community's Sense of Place
Abstract: The Guide outlines a flexible step-by-step process for building a Community Cultural Profile by identifying local values, beliefs and behaviors as they relate to community life and the surrounding natural environment. http://www.epa.gov/ecocommunity/tools/community.htm

Best Practices for Field Days: A Program Planning Guidebook for Organizers, Presenters, Teachers and Volunteers (BPFD)

A new publication (4/15/05) is available to help organizations plan effective Field Days. The guidebook is for organizers, presenters, teachers and volunteers of field days. This comprehensive guide includes everything you need to know including how to plan for large crowds, bad weather, age-appropriate activities and more. If you've never hosted a field day before or even if you have, Best Practices for Field Days can take the worry out of putting one on. Guidelines and Planning Worksheets included. Written by G. Johnson and B. Johnson. The guide can be ordered at http://www.extension.umn.edu/cabin/onlineorder.html it is $19.99.

Increased salinization of fresh water in the northeastern United States
(Kaushal et al., 2005, Proceedings of the National Academy of Science)
Abstract: Chloride concentrations are increasing at a rate that threatens the availability of fresh water in the northeastern United States. Increases in roadways and deicer use are now salinizing fresh waters, degrading habitat for aquatic organisms, and impacting large supplies of drinking water for humans throughout the region. We observed chloride concentrations of up to 25% of the concentration of seawater in streams of Maryland, New York, and New Hampshire during winters, and chloride concentrations remaining up to 100

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times greater than unimpacted forest streams during summers. Mean annual chloride concentration increased as a function of impervious surface and exceeded tolerance for freshwater life in suburban and urban watersheds. Our analysis shows that if salinity were to continue to increase at its present rate due to changes in impervious surface coverage and current management practices, many surface waters in the northeastern United States would not be potable for human consumption and would become toxic to freshwater life within the next century.

Manual 2: Methods to Develop Restoration Plans for Small Urban Watersheds

Manual 2 of the Urban Subwatershed Restoration Series has been released. It continues the series the Center For Watershed Protection has been developing. (Manual 1, 4, 8, 10, and 11 have already been completed). Manual 2 helps tie the others together and provides a step-by-step approach to developing a restoration plan. To order: http://www.cwp.org/PublicationStore/USRM.htm

New Sediment Assessment Method

EPA's WARSSS Sediment Assessment Method Web Site has been completed. The Office of Water finalized a new technical methods Web site designed to help watershed managers assess and restore waters with suspended or bedded sediment problems. The centerpiece of the WARSSS website (Watershed Assessment of River Stability and Sediment Supply) is a step-by-step, three-phase assessment methodology developed by Dr. David L. Rosgen for detecting sediment problems and source areas, estimating excessive sediment loads, and planning (including development of TMDLs) to restore normal sediment dynamics in streams and rivers.

The U.S. Environmental Protection Agency supported the development of WARSSS because there is limited guidance on assessing sediment impairments. This web-based assessment tool was designed for scientists who need to assess sediment-impaired waters in planning for their restoration.

Besides the WARSSS methodology, the site also contains the entire sediment model WRENSS, a stream classification tutorial, and a large collection of links to clean sediment information and tools. Visit the WARSSS Web site at http://www.epa.gov/warsss and if you have any questions, please contact Doug Norton at norton.douglas@epa.gov.

Action For Nature Young Eco-Hero Awards

Action for Nature (AFN) is seeking applications from students 8-16 for its 2006 Young Eco-Hero Awards program. The Young Eco-Hero Awards Program recognizes the individual accomplishments of young people who have carried out environmental action projects. Projects must concern environmental advocacy & health, protection, or research. Winners will receive a cash award. Deadline: February 28, 2006. http://www.actionfornature.org/eco-hero/

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New Book: Teaching Green - The Middle Years: Hands-on Learning in Grades 6-8.
Teaching Green is a complete "green" teaching resource for anyone working with young people in grades six to eight, whether inside or outside schools. The book contains over 50 of the best teaching strategies and activities contributed to Green Teacher magazine during the past decade -- all updated and revised for this special anthology. For more details, visit www.greenteacher.com.

Study to examine social marketing opportunities in promoting vegetative buffers for lake projection.
Abstract: The lakefront vegetative buffer area is the last opportunity for the removal of phosphorus and other nonpoint source pollutants which threaten Maine lake water quality. However, the presence of effective buffers frequently conflicts with the individual homeowner's landscape objectives (often a suburban-style green lawn and unobstructed views). The goals of this project are to: 1) identify barriers to developing lakefront buffers; and 2) develop and evaluate social marketing tools to effect behavior change pertaining to installation and maintenance of lakefront buffer areas. It is only by examining the motivations of the landowner, including understanding the benefits and barriers *to that landowner* regarding the behaviors we wish to encourage/discourage, that we can develop successful lake protection marketing methods and potentially set a new social norm. Therefore, we will investigate landowners' perceptions of the benefits and barriers to installing and maintaining lakefront buffers, and test two social marketing tools designed to address those benefits and barriers.

The study is funded through a USGS Water Research Institute grant through the George Mitchell Center, UMaine. Project partners include Extension, Maine DEP, Penobscot County SWCD, and UNH Extension/Sea Grant. FMI contact Laura Wilson University of Maine Cooperative Extension, (207) 581-2971 lwilson@umext.maine.edu

Priority Water Watershed Lists
As many know, Maine DEP has been working on updating the priority watershed lists. The process is taking longer than expected, but sometime shortly after the first of the year Maine DEP will post the list for comment. Keep an eye on our web site or check with Don Witherill for updates Donald.T.Witherill@maine.gov.

Upcoming Events

March 22, 2006. Maine Water Conference. Augusta Civic Center. FMI Senator George J. Mitchell Center, University of Maine. ph: 207-581-3196 www.umaine.edu/WaterResearch

March 29-31, 2006. New England Association of Environmental Biologists (NEAEB) Annual Meeting. Bethel Maine. FMI contact Roy Bouchard, (207)287-7798 or roy.bouchard@Maine.Gov

April 10, 2006. Maine Coastal Waters Conference. Samoset Resort, Rockport Maine. FMI http://www.maine.gov/dmr/coastalwaters2006/index.htm

Starting our 15th Year of sharing information on water quality & quantity issues to protect Maine's water resources!

This newsletter is prepared especially of those involved in nonpoint source pollution issues. It is funded through an EPA 319 Clean Water Act Grant. If you have any announcements, comments or items for the Nonpoint Source Times, or if you would like to be added to the mailing list, please call or write:

Kathy Hoppe, Maine DEP, 1235 Central Drive, Presque Isle, ME 04769. phone: 207/760-3134. fax: 207/764-1507. kathy.m.hoppe@maine.gov

Clean water starts with you!

MDEP
1235 Central Drive
Presque Isle, Maine 04769